

We claim:

1 1. A machine-readable medium that provides instructions, which when executed by  
2 a set of processors, cause said set of processors to perform operations comprising:  
3 establishing a session at a data link layer between a host and a remote access  
4 concentrator;  
5 determining a set of network layer information corresponding to the session; and  
6 applying the set of network layer information to the host at the data link layer.

1 2. The machine-readable medium of claim 1 wherein the session is a Point to Point  
2 Protocol over Ethernet session.

1 3. The machine-readable medium of claim 1 further comprising:  
2 establishing a second session at the data link layer between the host and the  
3 remote access concentrator;  
4 determining a second set of network layer information corresponding to the  
5 second session; and  
6 applying the second set of network layer information to the host at the data link  
7 layer.

1 4. The machine-readable medium of claim 1 further comprising:  
2 establishing a second session at the data link layer between the host and a second  
3 remote access concentrator;  
4 determining a second set of network layer information corresponding to the  
5 second session; and  
6 applying the second set of network layer information to the host at the data link  
7 layer.

1 5. A machine-readable medium that provides instructions, which when executed by  
2 a set of processors, cause said set of processors to perform operations comprising:  
3 establishing a first session with a data link layer protocol between a host and a  
4 first remote access concentrator;  
5 determining a set of network layer information for the first session;  
6 establishing a second session with the data link layer protocol between the host  
7 and a second remote access concentrator; and  
8 determining a set of network layer information for the second session.

1 6. The machine-readable medium of claim 5 wherein the second remote access  
2 concentrator is the first access concentrator.

1 7. The machine-readable medium of claim 5 wherein the data link layer protocol is  
2 Point to Point Protocol over Ethernet.

1 8. A machine-readable medium that provides instructions, which when executed by  
2 a set of processors, cause said set of processors to perform operations comprising:  
3 establishing a communications session between a host and a remote access  
4 concentrator;  
5 retrieving a set of network information, the set of network information  
6 corresponding to the communications session;  
7 creating a message having the set of network information;  
8 transmitting the message from the remote access concentrator to the host;  
9 extracting the set of network information from the message; and  
10 applying the set of network information to the host.

1 9. The machine-readable medium of claim 8 wherein the communications session is  
2 a Point to Point Protocol over Ethernet session.

1 10. The machine-readable medium of claim 8 further comprising:  
2 establishing a second communications session between the host and the remote  
3 access concentrator;  
4 retrieving a second set of network information, the second set of network  
5 information corresponding to the second communications session;  
6 creating a second message having the second set of network information;  
7 transmitting the second message from the remote access concentrator to the host;  
8 extracting the second set of network information from the second message; and  
9 applying the second set of network information to the host.

1 11. The machine-readable medium of claim 8 further comprising:  
2 establishing a second communications session between the host and a second  
3 remote access concentrator;  
4 retrieving a second set of network information, the second set of network  
5 information corresponding to the second communications session;  
6 creating a second message having the second set of network information;  
7 transmitting the second message from the second remote access concentrator to  
8 the host;  
9 extracting the second set of network information from the second message; and  
10 applying the second set of network information to the host.

1 12. A machine-readable medium that provides instructions, which when executed by  
2 a set of processors, cause said set of processors to perform operations comprising:

3 establishing a Point to Point Protocol over Ethernet (PPPoE) session between a  
4 host to a remote access concentrator, the PPPoE session being associated  
5 to an account;  
6 determining a set of network information corresponding to the account in the  
7 PPPoE session; and  
8 applying the set of network information to the host.

1 13. The machine-readable medium of claim 12 further comprising:  
2 establishing a second PPPoE session between the host and the remote access  
3 concentrator, the second PPPoE session being associated to a second  
4 account;  
5 determining a second set of network information corresponding to the second  
6 account; and  
7 applying the second set of network information to the host in the PPPoE session.

1 14. The machine-readable medium of claim 12 further comprising:  
2 establishing a second PPPoE session between the host and a second remote access  
3 concentrator, the second PPPoE session being associated to a second  
4 account;  
5 determining a second set of network information corresponding to the second  
6 account; and  
7 applying the second set of network information to the host in the PPPoE session.

1 15. An apparatus comprising:  
2 a storage to store a set of network information;

3 a communications module coupled to the storage, the communications module to  
4 establish a communications session at a data link layer and perform  
5 network control protocol negotiation for the communications session; and  
6 a processing unit coupled to the communications module and the storage, the  
7 processing unit to create a message having a subset of the set of network  
8 information and to transmit the message in the communications session.

1 16. The apparatus of claim 15 wherein the communications session is a Point to Point  
2 Protocol over Ethernet session.

1 17. The apparatus of claim 15 further comprising:  
2 the communications module to establish a second communications session; and  
3 the processing unit to create a second message having a second subset of the set  
4 of network information and to transmit the second message in the second  
5 communications session.

1 18. A computer implemented method comprising:  
2 establishing a session at a data link layer between a host and a remote access  
3 concentrator;  
4 determining a set of network layer information corresponding to the session; and  
5 applying the set of network layer information to the host at the data link layer.

1 19. The computer implemented method of claim 18 wherein the session is a Point to  
2 Point Protocol over Ethernet session.

1 20. The computer implemented method of claim 18 further comprising:

2 establishing a second session at the data link layer between the host and the  
3 remote access concentrator;  
4 determining a second set of network layer information corresponding to the  
5 second session; and  
6 applying the second set of network layer information to the host at the data link  
7 layer.

1 21. The computer implemented method of claim 18 further comprising:  
2 establishing a second session at the data link layer between the host and a second  
3 remote access concentrator;  
4 determining a second set of network layer information corresponding to the  
5 second session; and  
6 applying the second set of network layer information to the host at the data link  
7 layer.